

Abstract of the Disclosure

The invention relates to a process for the arc welding of at least one metal workpiece to a matrix comprising at least one brazed zone, the braze of which contains copper and phosphorus, in which (a) at least one layer of an alloy containing copper and more than 1% tin by weight is deposited on at least one part of the brazed zone and (b) the metal workpiece is welded to the said at least one layer of copper/tin alloy deposited in step (a). Process for manufacturing a brazed copper heat exchanger, in which such a welding process is carried out. Exchangers thus obtained and their use in the cryogenic separation of gases, particularly air gases, in a cryogenic separation unit.